

CLAIMS

What is claimed is:

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1 ~~1. A thermal interface material, comprising:~~  
2 ~~a plurality of thermally conductive, malleable fibers arranged in a pattern, the fibers~~  
3 ~~of the pattern in contact with each other, when compressed against a first surface.~~

1 ~~2. The thermal interface material of Claim 1, further comprising:~~  
2 ~~a thermal medium, the medium encompassing the fibers, the thermal medium being~~  
3 ~~malleable and deforming to fill irregularities when the fibers are compressed against a first~~  
4 ~~surface.~~

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1 ~~3. The thermal interface material of Claim 1, wherein the fibers include one of the~~  
2 ~~following: a metal, a metal compound, or a metal alloy.~~

1 4. The thermal interface material of Claim 1, wherein the fibers are a non-metal.

1 5. The thermal interface material of Claim 4, wherein the non-metal includes carbon or  
2 graphite.

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1 6. ~~The thermal interface material of Claim 1, further comprising:~~  
2 ~~an adhesive applied to the fibers, the adhesive affixing the fibers in position on a first~~  
3 ~~surface until the fibers are compressed against the first surface.~~

1 7. The thermal interface material of Claim 1, wherein the pattern includes a random  
2 pattern.

1 8. The thermal interface material of Claim 1, wherein the pattern includes a stacked  
2 pattern.

1 9. The thermal interface material of Claim 1, wherein the pattern includes a woven  
2 pattern.

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1 10. A method, comprising:  
2 providing a plurality of thermally conductive, malleable fibers in a pattern;  
3 positioning the plurality of fibers between a first surface and a second surface; and  
4 compressing the plurality of fibers between the first and second surfaces, the  
5 compression deforming the fibers into contact with each other and into contact with the first  
6 surface and second surface.

1 11. The method of Claim 10, wherein the first surface is a thermal plate and wherein the  
2 second surface is a heat source.

1 12. The method of Claim 10, wherein the pattern includes a random pattern.

1 13. The method of Claim 10, wherein the pattern includes a stacked pattern.

1 14. The method of Claim 10, wherein the pattern includes a woven pattern.

1 15. The method of Claim 10, further comprising:  
2 encompassing the fibers in a thermal medium, the thermal medium being malleable,  
3 the thermal medium deforming to fill irregularities when compressed against a first surface.

1 16. The method of Claim 10, wherein the fibers include one of the following: a metal, a  
2 metal compound, a metal alloy.

1 17. The method of Claim 10, wherein the fibers are a non-metal.

1 18. The method of Claim 17, wherein the non-metal includes carbon or graphite.

1 19. The method of Claim 10, further comprising:

2       applying an adhesive to the fibers to affix the fibers in position on the first surface  
3       until the fibers are compressed against the first surface.

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1   20.   An apparatus, comprising:  
2       a plurality of thermally conductive, malleable fibers defining a pattern positioned  
3       against a first surface; and  
4       means for compressing the plurality of fibers between the first surface and second  
5       surface, the compression deforming the fibers into contact with each other and with said first  
6       surface and said second surface.

1   21.   The apparatus of Claim 20, wherein the first surface is a thermal plate and wherein  
2       the second surface is a heat source.

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1   22.   The apparatus of Claim 20, wherein the fibers are encompassed in a thermal  
2       medium. The medium acting and being malleable, the thermal medium deforming to fill  
3       irregularities when the fibers are compressed against the first surface.

1   23.   The apparatus of Claim 20, wherein the fibers include one of the following: a metal,  
2       a metal compound, or a metal alloy.

1   24.   The apparatus of Claim 20, wherein the fibers are a non-metal.

- 1 25. The apparatus of Claim 20, wherein the non-metal includes carbon or graphite.
- 1 26. The apparatus of Claim 20, wherein the pattern includes a random pattern.
- 1 27. The apparatus of Claim 20, wherein the pattern includes a stacked pattern.
- 1 28. The apparatus of Claim 20, wherein the pattern includes a woven pattern.

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